## Errata for 4th Edition:
## Numerical Methods Using MATLAB,
## John H. Mathews and Kurtis D. Fink

**Page 8** Line directly above Theorem 1.12 should read:

$$S = \lim_{n\to\infty} S_n \ldots$$

**Page 19** Line directly above **Scientific Notation** should read: $S = 3/124$.

**Page 25** Second sentence of Example 1.15 (3a) should read: "Therefore $\hat{x}$ approximates $x$ to three significant digits."

**Page 26** Next to last sentence of Example 1.16 should read: "$\ldots p = 0.544987104184$ to six significant digits."

**Page 27** Sentence following formula (6) should read: "...,is obtained by rounding the number $d_k.d_{k+1}d_{k+2}$ to the nearest integer."

**Page 33** Formula (17) should read: $pq = (\hat{p} + \epsilon_p)(\hat{q} + \epsilon_q)\ldots$

**Page 34** Last line on page should read:

$$= \left(\frac{4}{3^n} - \frac{3}{3^n}\right) A + \left(\frac{4}{3} - \frac{1}{3}\right) B \ldots$$

**Page 35** Fourth line should read:

$$= \left(\frac{10}{3^n} - \frac{9}{3^n}\right) A + (10-1)\, 3^{n-2} B$$

**Page 48** The bottom of Case(i) and Case(ii) should read "Since $|g'(x)| \geq \frac{3}{2}\ldots$" and "Since $|g'(x)| \leq \frac{1}{2}\ldots$", respectively.

**Page 62** The next to last sentence of Exercise 14 should read: "...is not equal to 1, 2, or 3 for any $n \geq 0$, then..."

**Page 62** The next to last sentence in Exercise 15 should read: "If $a_0$ and $b_0$ are selected such that the zeros of $f(x)$ lie in the interval $[a), b_0]$ and $c_n = \frac{(a_n + b_n)}{2}$ is not equal to any of the zeros of $f(x)$ for any $n \geq 0$, then..."

**Page 82** Last sentence of first paragraph should read: "Indeed, if we replace $p_k$ by $p_{k-1}$ in (28) then the right side becomes the same as the right side of (21) in Example 2.14."

**Page 82** Line below formula (29) should read: "... and the relation in (29) is valid only at simple roots."

**Page 93** Sentence after formula (17) should read: "... from among the old $\{p_0, p_1, p_2\}$..."

**Page 104** Formula (21) should read: " $\mathbf{0} + \mathbf{X} = \mathbf{X} = \mathbf{X} + \mathbf{0}$ "

**Page 107** Formula (41) should read: " $\mathbf{0} + \mathbf{A} = \mathbf{A} = \mathbf{A} + \mathbf{0}$ "

**Page 136** Third line of (b) should read: " $[a, j] = max(abs(A(1:4, 1)))$ "

**Page 158** the first equations in formulas (5) and (6) should read:

$$x = \frac{-15 + y + 5z}{2} \text{ and } x_{k+1} = \frac{-15 + y_k + 5z_k}{2},$$

respectively.

**Page 168** The first equation in formula (3) should read: " $x^2 - 2x - y + 0.5 = 0$ "

**Page 190** Expression four lines below formula (5) should read:

$$|E_{15}(1)| = \frac{|f^{(16)}(c)|}{16!} = \frac{e^c}{16!} < \frac{3}{16!} < 1.433844 \times 10^{-13}$$

**Page 192** Line following formula (8) should read: "where $M \geq \max\{|f^{(N+1)}(z)| : x_0 - R \leq z \leq x_0 + R\}$."

**Page 224** In Table 4.8, last entry of fifth column should read: " $f[x_1, x_2, x_3, x_4]$ "

**Page 269** Second row second column entry should read: " $y = \frac{-1}{C}(xy) + \frac{D}{C}$ "

**Page 354** Second line above formula (3) should read: " ..., $P_{n+1}^{(n+1)}(x) = (n+1)!a_{n+1}$ for ... "

**Page 420** Formula (20) should read:

$$G = h(f'(p_1) - f'(p_0)) = 3\alpha(1 - 2\gamma) + 2\beta$$

**Page 462** Caption for Figure 9.4 should read: " The slope field for the differential equation $y' = f(t, y) = (t - y)/2$. "

**Page 486** In Table 9.7 header for last column should read: " $O(h^4) \approx Ch^4 \ldots$ "

**Page 588** First line of Theorem 11.3 should read: " Let $K_1, K_2, \ldots, K_m$ be vectors in $\Re^n$. "

**Page 600** Third line below Table 11.1 should read: " The sequence of vectors converges to $V = \left[\frac{2}{5} \ \frac{3}{5} \ 1\right]'$, and the . . . "

**Page 601** Last line on page should read:

$$X_k = \frac{\lambda_1^k}{c_1 c_2 \cdots c_k} \left( b_1 V_1 + b_2 \left(\frac{\lambda_2}{\lambda_1}\right)^k V_2 + \cdots + b_n \left(\frac{\lambda_n}{\lambda_1}\right)^k V_n \right)$$

**Page 647** Section 1.3 5(a) should read: " $\ln((x+1)/2)$ or $\ln(1 + 1/x)$ "

**Page 655** Section 4.1 8(c) should read: " ... the maximum of ... "